

428 Rec'd PCT/PT

25 JAN 2000

Sheet 1 of 1

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.

09/463643

INFORMATION DISCLOSURE STATEMENT BY APPLICANT  
(Use Several Sheets If Necessary)Applicant: Shuji Nakamura *et al.*

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

## U.S. PATENT DOCUMENTS

Examiner Initials	Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
	AA					
	AB					
	AC					
	AD					
	AE					
	AF					
	AG					
	AH					
	AI					
	AJ					

## FOREIGN PATENTS OR PUBLISHED FOREIGN PATENT APPLICATIONS

		Document Number	Publication Date	Country / Patent Office	Class	Subclass	Translation	
							Yes	No
BWB	AK	9-116130	5/2/97	Japan	H01L	29/43		X
	AL							
	AM							
	AN							
	AO							

## OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)

	AP	
	AQ	
	AR	
	AS	
	AT	
	AU	
	AV	
	AW	
	AX	
	AY	
	AZ	

Examiner:

Bhm Berman

Date Considered:

9/15/01

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

## U.S. PATENT DOCUMENTS

Examiner Initials		Serial / Patent Number	Issue Date	Applicant / Patentee	Class	Subclass	Filing Date
BMB	AA	3566215	2/23/71	Heywang	317	235	7/31/68
	AB	3593191	7/13/71	Henker	331	94.5	9/24/69
	AC	3655439	4/11/72	Seiter	117	212	6/16/69
	AD	3658585	4/25/72	Folkmann, <i>et al.</i>	117	201	2/26/70
	AE	3704427	11/28/72	Heywang	331	94.5	6/3/64
	AF	3705567	12/12/72	Emels	118	49	1/22/71
	AG	3737737	6/5/73	Heywang, <i>et al.</i>	317	234.R	10/6/71
	AH	3747559	7/24/73	Dietze	118	48	5/15/72
	AI	3793984	2/26/74	Kasper, <i>et al.</i>	118	48	11/13/72
	AJ	3819974	6/25/74	Stevenson, <i>et al.</i>	313	499	3/12/73
	AK	3853974	12/10/74	Reuschel, <i>et al.</i>	264	81	2/21/73
	AL	3941647	3/2/76	Druminski	156	612	3/8/73
	AM	3948693	4/6/76	Weyrich, <i>et al.</i>	148	171	7/23/74
	AN	3963537	6/15/76	Kniepkamp, <i>et al.</i>	148	175	8/27/74
	AO	3965347	6/22/76	Heywang	250	211.J	11/12/74
	AP	3974561	8/17/76	Schnoeller	29	611	5/30/74
	AQ	4020791	5/3/77	Reuschel, <i>et al.</i>	118	49.1	11/19/74
	AR	4062035	12/6/77	Winstel	357	17	1/28/77
	AS	4098223	7/4/78	Ertl, <i>et al.</i>	118	48	11/4/76
	AT	4102298	7/25/78	Dietze, <i>et al.</i>	118	5	6/10/76
	AU	4108539	8/22/78	Gort, <i>et al.</i>	350	201	11/18/76
	AV	4113381	9/12/78	Epstein	356	5	11/18/76
	AW	4133702	1/9/79	Krimmel	148	1.5	8/11/77
	AX	4140546	2/20/79	Krimmel	148	1.5	8/17/77
	AY	4154625	5/15/79	Golovchenko <i>et al.</i>	148	1.5	11/16/77
	AZ	4170018	10/2/79	Runge	357	17	3/30/78
	BA	4261770	4/14/81	Splitgerber, <i>et al.</i>	148	171	3/13/80
	BB	4351695	9/28/82	Hieber, <i>et al.</i>	156	603	1/2/81
	BC	4404265	9/13/83	Manasevit	428	689	4/7/78
	BD	4410993	10/18/83	Zschauer	372	44	4/17/81
	BE	4423349	12/27/83	Nakajima, <i>et al.</i>	313	487	7/1/81
	BF	4505765	3/19/85	Tromner	148	171	6/17/83
BMD	BG	4521448	6/4/85	Sasaki	427	88	3/3/83

Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Applicant: Shuji Nakamura, *et al.*

Filing Date: January 25, 2000

Group Art Unit:

BH	4531142	7/23/85	Weyrich, <i>et al.</i>	357	17	2/16/83
BI	4568206	2/4/86	Imazaike	384	530	12/3/84
BJ	4596998	6/24/86	Krimmel	357	17	7/19/84
BK	4599244	7/8/86	Falckenberg, <i>et al.</i>	427	74	9/12/84
BL	4599245	7/8/86	Falckenberg, <i>et al.</i>	427	74	9/11/84
BM	4604637	8/5/86	Ruhle, <i>et al.</i>	357	17	3/1/83
BN	4615766	10/7/86	Jackson, <i>et al.</i>	156	662	2/27/85
BO	4656636	4/7/87	Amann, <i>et al.</i>	372	50	12/23/85
BP	4661175	4/28/87	Kuphal, <i>et al.</i>	148	171	6/6/85
BQ	4670093	6/2/87	Maerz, <i>et al.</i>	156	649	4/21/86
BR	4682337	7/21/87	Amann	372	44	9/13/85
BS	4683574	7/28/87	Heinen	372	44	9/12/85
BT	4722088	1/26/88	Wolf	372	44	9/6/85
BU	4740259	4/26/88	Heinen	156	234	9/15/86
BV	4742525	5/3/88	Heinen, <i>et al.</i>	372	44	9/6/85
BW	4744088	5/10/88	Heinen, <i>et al.</i>	372	50	3/13/87
BX	4746195	5/24/88	Auracher, <i>et al.</i>	350	320	3/13/85
BY	4763979	8/16/88	Heywang	350	96.20	9/23/86
BZ	4768199	8/30/88	Heinen, <i>et al.</i>	372	36	9/5/86
CA	4792200	12/20/88	Amann, <i>et al.</i>	350	96.12	4/1/87
CB	4792959	12/20/88	Mueller, <i>et al.</i>	372	46	1/30/87
CC	4818722	4/4/89	Heinen	437	129	5/26/87
CD	4829188	5/9/89	Shinomiya, <i>et al.</i>	250	483.1	10/1/87
CE	4835575	5/30/89	Plihal	357	30	2/3/88
CF	4841344	6/20/89	Heinen	357	17	12/7/87
CG	4845723	7/4/89	Heinen, <i>et al.</i>	372	38	2/22/88
CH	4855118	8/8/89	Ichinose, <i>et al.</i>	423	301	4/12/88
CI	4859903	8/22/89	Minematu, <i>et al.</i>	313	487	3/2/88
CJ	4864369	9/5/89	Snyder, <i>et al.</i>	357	17	7/5/88
CK	4869568	9/26/89	Schimpe	350	96.12	9/29/88
CL	4890033	12/26/89	Ichinomiya, <i>et al.</i>	313	487	6/28/88
CM	4904617	2/27/90	Muschke	437	129	8/25/88
CN	4904618	2/27/90	Neumark	437	150	8/22/88
CO	4907044	3/6/90	Schellhorn, <i>et al.</i>	357	17	7/14/89
CP	4907534	3/13/90	Huang, <i>et al.</i>	118	725	12/9/88
CQ	4911102	3/27/90	Manabe, <i>et al.</i>	118	719	1/26/88

Examiner:

Date Considered: 9/15/00

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

CR	4918497	4/17/90	Edmond	357	17	12/14/88
CS	4929907	5/29/90	Berkel	330	252	3/8/89
CT	4944837	7/31/90	Nishikawa, <i>et al.</i>	156	646	2/28/89
CU	4945394	7/31/90	Palmour, <i>et al.</i>	357	34	10/26/87
CV	4946547	8/7/90	Palmour, <i>et al.</i>	156	643	10/13/89
CW	4947218	8/7/90	Edmond, <i>et al.</i>	357	13	11/3/87
CX	4959174	9/25/90	Nakajima, <i>et al.</i>	252	301.6R	3/16/89
CY	4960728	10/2/90	Schaaake, <i>et al.</i>	437	82	10/11/88
CZ	4966862	10/30/90	Edmond	437	100	8/28/89
DA	4971739	11/20/90	Ichinose, <i>et al.</i>	264	61	4/12/89
DB	4977567	12/11/90	Hanke	372	45	10/11/89
DC	4982314	1/1/91	Miki	363	16	12/4/89
DD	4985742	1/15/91	Pankove	357	34	7/7/89
DE	4987576	1/22/91	Heinen	372	46	11/3/89
DF	4990466	2/5/91	Shieh, <i>et al.</i>	437	129	11/1/88
DG	4990990	2/5/91	Albrecht, <i>et al.</i>	357	30	3/23/88
DH	5005057	4/2/91	Izumiya, <i>et al.</i>	357	17	4/13/90
DI	5006908	4/9/91	Matsuoka, <i>et al.</i>	357	17	2/12/90
DJ	5008735	4/16/91	Edmond, <i>et al.</i>	357	74	12/7/89
DK	5008789	4/16/91	Arai, <i>et al.</i>	362	255	2/14/90
DL	5019746	5/28/91	Merg	313	512	12/4/89
DM	5023686	6/11/91	Helmut, <i>et al.</i>	357	30	6/15/90
DN	5027168	6/25/91	Edmond	357	17	8/28/89
DO	5034956	7/23/91	Gessner, <i>et al.</i>	372	45	11/2/89
DP	5041334	8/20/91	Nakajima, <i>et al.</i>	428	407	12/19/89
DQ	5042043	8/20/91	Hatano, <i>et al.</i>	372	45	4/13/90
DR	5045896	9/3/91	Ash, <i>et al.</i>	357	17	3/21/89
DS	5049779	9/17/91	Itsuki, <i>et al.</i>	313	486	4/28/89
DT	5061972	10/29/91	Edmond	357	13	9/13/90
DU	5065207	11/12/91	Heinen	357	30	2/5/91
DV	5077145	12/31/91	Shinomiya, <i>et al.</i>	428	691	12/21/90
DW	5093576	3/3/92	Edmond, <i>et al.</i>	250	370.01	3/15/91
DX	5119540	6/9/92	Kong, <i>et al.</i>	29	25.01	7/24/90
DY	5120619	6/9/92	Nakajima, <i>et al.</i>	428	690	11/7/90
DZ	5122845	6/16/92	Manabe, <i>et al.</i>	357	17	2/26/90
EA	5128955	7/7/92..	Danielmeyer	372	94	8/18/88

Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

BW3	EB	5146465	9/8/92	Khan, <i>et al.</i>	372	45	2/1/91
	EC	5155062	10/13/92	Coleman	437	100	12/20/90
	ED	5171370	12/15/92	Reithmaier, <i>et al.</i>	118	726	4/18/90
	EE	5182670	1/26/93	Khan, <i>et al.</i>	359	359	8/30/91
	EF	5184247	2/2/93	Schimpe	359	344	7/17/90
	EG	5185207	2/9/93	Furuoka, <i>et al.</i>	428	404	12/27/91
	EH	5200022	4/6/93	Kong, <i>et al.</i>	156	612	10/3/90
	EI	5202777	4/13/93	Sluzky, <i>et al.</i>	359	50	4/1/92
	EJ	5205905	4/27/93	Kotaki, <i>et al.</i>	156	662	5/30/91
	EK	5208878	5/4/93	Thulke	385	14	10/2/91
	EL	5210051	5/11/93	Carter, Jr.	437	107	6/5/91
	EM	5218216	6/8/93	Manabe, <i>et al.</i>	257	103	12/20/91
	EN	5229626	7/20/93	Ebitani, <i>et al.</i>	257	84	3/27/92
	EO	5233204	8/3/93	Fletcher, <i>et al.</i>	257	13	1/10/92
	EP	5239188	8/24/93	Takeuchi, <i>et al.</i>	257	76	11/4/92
	EQ	5247533	9/21/93	Okazaki, <i>et al.</i>	372	45	12/26/91
	ER	5250366	10/5/93	Nakajima, <i>et al.</i>	428	690	5/8/92
	ES	5252499	10/12/93	Rothschild	437	22	8/15/88
	ET	5252839	10/12/93	Fouquet	257	13	6/10/92
	EU	5260960	11/9/93	Amann, <i>et al.</i>	372	46	4/23/92
	EV	5264713	11/23/93	Palmour	257	77	6/14/91
	EW	5266503	11/30/93	Wang, <i>et al.</i>	437	24	10/2/91
	EX	5270554	12/14/93	Palmour	257	77	6/14/91
	EY	5272108	12/21/93	Kozawa	437	127	2/26/92
	EZ	5278433	1/11/94	Manabe, <i>et al.</i>	257	103	8/7/92
	FA	5281830	1/25/94	Kotaki, <i>et al.</i>	257	86	10/24/91
	FB	5290393	3/1/94	Nakamura	156	613	1/28/92
	FC	5306662	4/26/94	Nakamura, <i>et al.</i>	437	107	11/2/92
	FD	5312560	5/17/94	Somatomo, <i>et al.</i>	252	301.4 S	3/18/93
	FE	5323022	6/21/94	Glass, <i>et al.</i>	257	77	9/10/92
	FF	5330791	7/19/94	Aihara, <i>et al.</i>	427	215	4/16/93
	FG	5334277	8/2/94	Nakamura	117	102	10/22/91
	FH	5336080	8/9/94	Sumitomo, <i>et al.</i>	428	407	12/17/92
	FI	5338944	8/16/94	Edmond, <i>et al.</i>	257	76	9/22/93
	FJ	5341390	8/23/94	Yamada, <i>et al.</i>	372	45	4/15/93
BWB	FK	5343316	8/30/94	Morimoto, <i>et al.</i>	359	50	6/29/93

Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

Applicant: Shuji Nakamura, *et al.*

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

BWB	FL	5344791	9/6/94	Huang	437	126	8/14/92
	FM	5359345	10/25/94	Hunter	345	102	8/5/92
	FN	5363390	11/8/94	Yang, <i>et al.</i>	372	22	11/22/93
	FO	5366834	11/22/94	Yoneda, <i>et al.</i>	430	23	5/5/93
	FP	5369289	11/29/94	Tamaki, <i>et al.</i>	257	99	10/30/92
	FQ	5376303	12/27/94	Royce, <i>et al.</i>	252	301.4 R	1/10/94
	FR	5376580	12/27/94	Kish, <i>et al.</i>	437	127	3/19/93
	FS	5381103	1/10/95	Edmond, <i>et al.</i>	324	753	10/13/92
	FT	5382822	1/17/95	Stein	257	410	9/27/93
	FU	5389571	2/14/95	Takeuchi, <i>et al.</i>	437	133	4/16/93
	FV	5390210	2/14/95	Fouquet, <i>et al.</i>	372	92	11/22/93
	FW	5393993	2/28/95	Edmond, <i>et al.</i>	257	77	12/13/93
	FX	5394005	2/28/95	Brown, <i>et al.</i>	257	461	2/18/94
	FY	5403774	4/4/95	Shieh, <i>et al.</i>	437	129	11/6/92
	FZ	5404282	4/4/95	Klinke, <i>et al.</i>	362	249	8/19/94
	GA	5408120	4/18/95	Manabe, <i>et al.</i>	257	431	1/22/93
	GB	5409859	4/25/95	Glass, <i>et al.</i>	437	187	4/22/94
	GC	5416342	5/16/95	Edmond, <i>et al.</i>	257	76	6/23/93
	GD	5417886	5/23/95	Tateiwa, <i>et al.</i>	252	301.4 R	9/20/93
	GE	5433169	7/18/95	Nakamura	117	102	4/6/94
	GF	5433533	7/18/95	Imazaike	384	488	12/20/93
	GG	5433888	7/18/95	Okada, <i>et al.</i>	252	301.4 R	9/20/93
	GH	5435938	7/25/95	Bando, <i>et al.</i>	252	301.4 S	3/10/94
	GI	5438198	8/1/95	Ebitani, <i>et al.</i>	250	330	5/3/94
	GJ	5459107	10/17/95	Palmour	437	238	6/5/92
	GK	5465249	11/7/95	Cooper, Jr. <i>et al.</i>	365	149	11/26/91
	GL	5467291	11/14/95	Fan, <i>et al.</i>	364	578	12/5/91
	GM	5468678	11/21/95	Nakamura, <i>et al.</i>	437	107	1/12/94
	GN	5475241	12/12/95	Harrah, <i>et al.</i>	257	99	10/27/93
	GO	5497012	3/5/96	Moll	257	183	6/15/94
	GP	5502316	3/26/96	Kish, <i>et al.</i>	257	94	10/12/95
	GQ	5506421	4/9/96	Palmour	257	77	11/24/92
	GR	5511084	4/23/96	Amann	372	20	1/17/95
	GS	5514627	5/7/96	Lowery, <i>et al.</i>	437	209	1/24/94
	GT	5523018	6/4/96	Okada, <i>et al.</i>	252	301.4 P	3/23/95
BWB	GU	5523589	6/4/96	Edmond, <i>et al.</i>	257	77	9/20/94

Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

GV	5539217	7/23/96	Edmond, <i>et al.</i>	257	77	8/9/93
GW	5563422	10/8/96	Nakamura, <i>et al.</i>	257	13	4/28/94
GX	5578839	11/26/96	Nakamura, <i>et al.</i>	257	96	11/17/93
GY	5583879	12/10/96	Yamazaki, <i>et al.</i>	372	45	4/19/95
GZ	5585648	12/17/96	Tischler	257	77	2/3/95
HA	5587593	12/24/96	Koide, <i>et al.</i>	257	94	4/19/95
HB	5592501	1/7/97	Edmond, <i>et al.</i>	372	45	9/20/94
HC	5592578	1/7/97	Ruh	385	31	11/1/95
HD	5596595	1/21/97	Tan, <i>et al.</i>	372	96	6/8/95
HE	5604135	2/18/97	Edmond, <i>et al.</i>	437	22	8/12/94
HF	5604763	2/18/97	Kato, <i>et al.</i>	372	45	4/19/95
HG	5612260	3/18/97	Palmour	437	238	12/9/94
HH	5614736	3/25/97	Neumann, <i>et al.</i>	257	102	9/25/95
HI	5616177	4/1/97	Yamada	117	102	2/22/95
HJ	5620557	4/15/97	Manabe, <i>et al.</i>	438	507	6/26/95
HK	5621749	4/15/97	Baney	372	69	9/6/95
HL	5625202	4/29/97	Chai	257	94	6/8/95
HM	5627244	5/6/97	Sato	526	92	4/26/95
HN	5629531	5/13/97	Palmour	257	77	12/9/94
HO	5631190	5/20/97	Negley	438	33	10/7/94
HP	5635146	6/3/97	Singh, <i>et al.</i>	423	65	11/30/95
HQ	5642375	6/24/97	King, <i>et al.</i>	372	97	10/26/95
HR	5650641	7/22/97	Sassa, <i>et al.</i>	257	88	8/31/95
HS	5652434	7/29/97	Nakamura, <i>et al.</i>	257	13	6/17/96
HT	5652438	7/29/97	Sassa, <i>et al.</i>	257	94	7/19/95
HU	5656832	8/12/97	Ohba, <i>et al.</i>	257	190	3/8/95
HV	5659568	8/19/97	Wang, <i>et al.</i>	372	96	5/23/95
HW	5661074	8/26/97	Tischler	438	32	5/24/95
HX	5661316	8/26/97	Kish, Jr., <i>et al.</i>	257	190	9/20/96
HY	5661742	8/26/97	Huang, <i>et al.</i>	372	46	5/22/96
HZ	5670798	9/23/97	Schetzina	257	96	3/29/95
IA	5679153	10/21/97	Dmitriev, <i>et al.</i>	117	106	11/30/94
IB	5684623	11/4/97	King, <i>et al.</i>	359	346	11/21/96
IC	5686737	11/11/97	Allen	257	77	9/16/94
ID	5700713	12/23/97	Yamazaki, <i>et al.</i>	437	129	3/20/95
IE	5707139	1/13/98	Haitz	362	231	11/1/95

Examiner:

Date Considered: 9/15/01

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

IF	5718760	2/17/98	Carter, <i>et al.</i>	117	84	2/5/96
IG	5719409	2/17/98	Singh, <i>et al.</i>	257	77	6/6/96
IH	5724062	3/3/98	Hunter	345	102	9/21/94
II	5724373	3/3/98	Chang	372	20	11/15/96
IJ	5724376	3/3/98	Kish, Jr., <i>et al.</i>	372	96	11/30/95
IK	5727014	3/10/98	Wang, <i>et al.</i>	372	96	10/31/95
IL	5729029	3/17/98	Rudaz	257	13	9/6/96
IM	5729567	3/17/98	Nakagawa	372	99	4/25/96
IN	5733796	3/31/98	Manabe, <i>et al.</i>	437	127	11/9/95
IO	5734182	3/31/98	Nakamura, <i>et al.</i>	257	96	6/10/96
IP	5739552	4/14/98	Kimura, <i>et al.</i>	257	89	10/24/95
IQ	5739554	4/14/98	Edmond, <i>et al.</i>	257	103	5/8/95
IR	5741431	4/21/98	Shih	216	65	5/15/97
IS	5741724	4/21/98	Ramdani, <i>et al.</i>	437	128	12/27/96
IT	5742133	4/21/98	Wilhelm, <i>et al.</i>	315	291	9/9/96
IU	5747832	5/5/98	Nakamura, <i>et al.</i>	257	103	6/10/96
IV	5753939	5/19/98	Sassa, <i>et al.</i>	257	94	3/7/97
IW	5758951	6/2/98	Haitz	362	259	6/27/97
IX	5761229	6/2/98	Baldwin, <i>et al.</i>	372	31	1/25/96
IY	5767581	6/16/98	Nakamura, <i>et al.</i>	257	749	6/17/96
IZ	5771254	6/23/98	Baldwin, <i>et al.</i>	372	31	6/3/96
JA	5776837	7/7/98	Palmour	438	767	11/19/96
JB	5777350	7/7/98	Nakamura, <i>et al.</i>	257	96	11/30/95
JC	5777433	7/7/98	Lester, <i>et al.</i>	313	512	7/11/96
JD	5779924	7/14/98	Krames, <i>et al.</i>	216	24	3/22/96
JE	5780120	7/14/98	Belouet, <i>et al.</i>	427	554	12/18/96
JF	5785404	7/28/98	Wiese	362	32	6/29/95
JG	5793054	8/11/98	Nido	257	18	6/13/96
JH	5793062	8/11/98	Kish, Jr., <i>et al.</i>	257	98	10/24/97
JI	5805624	9/8/98	Yang, <i>et al.</i>	372	45	7/30/96
JJ	5808323	9/15/98	Spaeth, <i>et al.</i>	257	88	3/29/96
JK	5808592	9/15/98	Mizutani, <i>et al.</i>	345	83	4/21/95
JL	5809050	9/15/98	Baldwin, <i>et al.</i>	372	43	1/25/96
JM	5811319	9/22/98	Koike, <i>et al.</i>	438	46	3/26/96
JN	5811931	9/22/98	Mueller-Mach, <i>et al.</i>	313	512	3/4/96
JO	5812105	9/22/98	Van De Ven	345	83	6/10/96

Examiner:

Date Considered: 9/15/01

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

BWB	JP	5812570	9/22/98	Spaeth	372	36	9/30/96
	JQ	5814870	9/29/98	Spaeth	257	433	1/6/97
	JR	5818861	10/6/98	Tan, <i>et al.</i>	372	46	7/19/96
	JS	5828684	10/27/98	Van De Walle	372	45	12/29/95
	JT	5831288	11/3/98	Singh, <i>et al.</i>	257	77	9/29/97
	JU	5835514	11/10/98	Yuen, <i>et al.</i>	372	36	1/25/96
	JV	5835522	11/10/98	King, <i>et al.</i>	372	97	11/19/96
	JW	5837561	11/17/98	Kish, Jr., <i>et al.</i>	438	47	5/23/97
	JX	5838706	11/17/98	Edmond, <i>et al.</i>	372	45	11/19/96
	JY	5838707	11/17/98	Ramdani, <i>et al.</i>	372	45	12/27/96
	JZ	5838708	11/17/98	Lin, <i>et al.</i>	372	50	8/1/95
	KA	5846844	12/8/98	Akasaki, <i>et al.</i>	437	21	2/7/96
	KB	5847507	12/8/98	Butterworth, <i>et al.</i>	313	512	7/14/97
	KC	5850410	12/15/98	Kuramata	372	43	3/18/96
	KD	5855924	1/5/99	Lumbard	425	116	12/27/95
	KE	5858277	1/12/99	Chau, <i>et al.</i>	252	301.4 F	12/23/92
	KF	5859496	1/12/99	Murazaki, <i>et al.</i>	313	485	5/10/96
	KG	5861190	1/19/99	Greene, <i>et al.</i>	427	248.1	3/25/96
	KH	5861713	1/19/99	Kondo, <i>et al.</i>	313	495	6/26/97
	KI	5862167	1/19/99	Sassa, <i>et al.</i>	372	45	5/27/97
	KJ	5867516	2/2/99	Corzine, <i>et al.</i>	372	45	3/12/96
	KK	5868837	2/9/99	Disalvo, <i>et al.</i>	117	952	1/13/98
	KL	5877558	3/2/99	Nakamura, <i>et al.</i>	257	749	12/19/97
	KM	5879587	3/9/99	Yale	252	301.45	9/24/97
	KN	5879588	3/9/99	Yale	252	301.45	9/24/97
	KO	5880486	3/9/99	Nakamura, <i>et al.</i>	257	96	8/30/96
	KP	5889802	3/30/99	Walker	372	31	3/27/97
	KQ	5889806	3/30/99	Nagai, <i>et al.</i>	372	45	8/8/97
	KR	5892784	4/6/99	Tan, <i>et al.</i>	372	43	10/27/94
	KS	5892787	4/6/99	Tan, <i>et al.</i>	372	96	4/22/96
	KT	5900650	5/4/99	Nitta	257	94	7/2/97
	KU	5905276	5/18/99	Manabe, <i>et al.</i>	257	103	11/6/97
	KV	5907151	5/25/99	Gramann, <i>et al.</i>	250	214.1	5/27/97
	KW	5912477	6/15/99	Negley	257	95	5/20/97
	KX	5917202	6/29/99	Haitz, <i>et al.</i>	257	98	12/21/95
BWB	KY	5919422	7/6/99	Yamanaka, <i>et al.</i>	422	121	7/26/96

Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

BWB	KZ	5920766	7/6/99	Floyd	438	35	1/7/98
	LA	5923053	7/13/99	Jakowetz, <i>et al.</i>	257	95	9/30/96
	LB	5923118	6/13/99	Jennato, <i>et al.</i>	313	485	3/7/97
	LC	5923690	7/13/99	Kume, <i>et al.</i>	372	46	1/24/97
	LD	5923946	7/13/99	Negley	438	4	4/17/97
	LE	5925898	7/20/99	Spath	257	98	1/26/98
	LF	5927995	7/27/99	Chen, <i>et al.</i>	438	517	4/9/97
	LG	5935705	8/10/99	Chen, <i>et al.</i>	428	367	10/15/97
	LH	5936985	8/10/99	Yamamoto, <i>et al.</i>	372	38	9/13/95
	LI	5945689	8/31/99	Koike, <i>et al.</i>	257	88	3/18/96
	LJ	5953361	9/14/99	Borchert, <i>et al.</i>	372	96	11/25/97
	LK	5953581	9/14/99	Yamasaki, <i>et al.</i>	438	22	4/17/97
	LL	5958295	9/28/99	Yale	252	301.4 S	9/24/97
	LM	5959316	9/28/99	Lowery	257	98	9/1/98
	LN	5959401	9/28/99	Asami, <i>et al.</i>	313	503	5/21/97
	LO	5961723	10/5/99	Roithner, <i>et al.</i>	118	715	11/26/96
	LP	5964943	10/12/99	Stein, <i>et al.</i>	117	88	6/25/97
	LQ	5966393	10/12/99	Hide, <i>et al.</i>	372	23	2/4/97
	LR	5968265	10/19/99	Stein, <i>et al.</i>	117	71	1/27/98
	LS	5969378	10/19/99	Singh	257	77	7/10/97
	LT	5972781	10/26/99	Wegleiter, <i>et al.</i>	438	460	9/30/97
	LU	5972801	10/26/99	Lipkin, <i>et al.</i>	438	770	11/8/95
	LV	5973336	10/26/99	Hanke, <i>et al.</i>	257	94	11/3/97
	LW	5980631	11/9/99	Tews, <i>et al.</i>	117	89	12/17/97
	LX	5981945	11/9/99	Spaeth, <i>et al.</i>	250	239	3/8/96
	LY	5981979	11/9/99	Brunner	257	99	11/26/97
	LZ	5982970	11/9/99	Schneider	385	125	9/19/97
	MA	5986317	11/16/99	Wiese	257	433	9/29/95
	MB	5991160	11/23/99	Lumbard	361	760	12/27/95
	MC	5994722	11/30/99	Averbeck, <i>et al.</i>	257	89	6/30/98
	MD	5998925	12/7/99	Shimizu, <i>et al.</i>	313	503	7/29/97
	ME	5999552	12/7/99	Bogner, <i>et al.</i>	372	43	1/20/98

## FOREIGN PATENTS OR PUBLISHED FOREIGN PATENT APPLICATIONS

	MF	Document Number	Publication Date	Country / Patent Office	Class	Subclass	Translation
	MG	CA1325582	12/28/93	CA	HO1L	21/36B	
BWB	MH	EP0356059A2	2/28/90	EP	HO1L	21/38	

Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

BWB	MI	EP0356059A3	2/28/90	EP	HO1L	21/38	
	MJ	EP0380340A2	8/1/90	EP	HO1L	29/91	
	MK	EP0380340A3	8/1/90	EP	HO1L	29/91	
	ML	EP0637069A1	2/1/95	EP	HO1L	21/473	
	MM	EP0731512A2	9/11/96	EP	HO1L	33/00	
	MN	EP0731512A3	7/2/97	EP	HO1L	33/00	
	MO	EP0781619A1	7/2/97	EP	B23H	7/02	
	MP	EP0871208A2	10/14/98	EP	HO1L	21/20	
	MQ	EP0871208A3	12/16/98	EP	HO1L	21/20	
	MR	EP0880181A2	11/25/98	EP	HO1L	29/45	
	MS	EP0880181A3	1/20/99	EP	HO1L	29/45	
	MT	EP0905799A2	3/31/99	EP	HO1L	33/00	
	MU	EP0936682A1	8/18/99	EP	HO1L	33/00	
	MV	FR2613136	9/30/88	FR	HO1L	33/00	
	MW	GB2322737A	3/2/98	GB	HO1L	21/304	
	MX	GB2323210A	9/16/98	GB	HO1L	33/00	
	MY	JP05152609	6/18/93	JP	HO1L	33/00	
BWB	MZ	JP0766192	3/10/95	JP	HO1L	29/78	
	NA	JP09193137	7/29/97	JP	B28D	5/044	
	NB	JP10233529	2/14/97	JP	HO1L	33/00	
BWB	NC	JP1064854	7/18/96	JP	HO1L	21/301	
	ND	JP7176794	7/14/95	JP	HO1L	33/00	
	NE	WO9702478A1	1/23/97	PCT	G01M	19/00	
	NF	WO9702610A1	1/23/97	PCT	HO1L	31/173	
	NG	WO9717730A1	5/15/97	PCT	HO1L	29/24	
	NH	WO9727629A1	7/31/97	PCT	HO1L	29/06	
	NI	WO9739485A1	10/23/97	PCT	HO1L	2706	
	NJ	WO9750132A1	12/31/97	PCT	HO1L	33/00	
	NK	WO9805078A1	2/5/98	PCT	HO1L	33/00	
	NL	WO9812757A1	3/26/98	PCT	HO1L	33/00	
	NM	WO9834304A1	8/6/98	PCT	HO1S	3/025	
	NN	WO9837586A1	8/27/98	PCT	HO1L	33/00	
	NO	WO9842879A1	10/1/98	PCT	C21C	5/35	
	NP	WO9842897A1	10/1/98	PCT	C30B	25/12	
	NQ	WO9847185A1	10/22/98	PCT	HO1L	33/00	
BWB	NR	WO9849731A1	11/5/98	PCT	HO1L	29/739	

Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463643

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Filing Date: January 25, 2000

Group Art Unit:

BWB	NS	WO9857378A1	12/17/98	PCT	HO1L	29/73	
	NT	WO9910936A2	3/4/99	PCT	HO1L	33/00	
	NU	WO9910936A3	3/4/99	PCT	HO1L	33/00	
	NV	WO9918617A1	4/15/99	PCT	HO1L	33/00	
OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)							
	NW	"Novel Metalorganic Chemical Vapor Deposition System for GaN Growth," S. Nakamura, American Institute of Physics, pp.2021-2023, 5/6/91.					
	NX	"Out of the Blue," Forbes Global Magazine, pp.66-71, 9/6/99.					
	NY	"Nitride PN Junctions Grown on SiC Substrates," V.A. Dmitriev, Inst. Phys. Conf., pp1019-1022, 1996.					
	NZ	"AlGaIn PN Junctions," V.A. Dmitriev, American Inst. of Physics, pp.115-117, 5/11/95.					
	OA	"Effects of Ar Ion Laser Irradiation on MOVPE of ZnSe using DMZn and DMSe as Reactants," A. Yoshikawa, Journal of Crystal Growth, pp.653-658, 1991.					
	OB	"Electric Breakdown in GaN P-N Junctions," V.A. Dmitriev, American Inst. of Physics, pp.229-231, 1/8/96.					
	OC	"High Quality GaN Grown Directly on SiC by Halide Vapour Phase Epitaxy," Y.V. Melnik, Inst. Phys. Conf., pp.863-866, 1996.					
	OD	"Luminescence Conversion of Blue Light Emitting Diodes," P. Schlotter, Journal of Applied Physics, pp.12-13, 2/27/97.					
	OE	"P-Type Conduction in Mg-Doped GaN Treated with Low-Energy Electron Beam Irradiation (LEEPI)," H. Amano, Japanese Journal of Applied Physics, pp.2112-2114, 12/89.					
	OF	"Photoluminescence of Mg-Doped P-Type GaN and Electroluminescence of GaN P-N Junction Led," I. Akasaki, Journal of Luminescence Vol. 48-49, pp.666-670, 1991.					
	OG	"Recent Progress in AlGaIn/GaN Laser Structures on 6H-SiC," G.E. Bulman, SPIE Vol. 2693, pp.57-63, 1996.					
	OH	"Recent Progress in GaN/SiC LEDs and Photopumped Lasers," G.E. Bulman, pp.100-101, 19xx.					
	OI	"Role of Growth Initiation for High-Brightness GaN-Based Light Emitting Diodes," R.S. Kern, 2nd. Intern. Symp. on Blue Laser and Light Emitting Diodes, Chiba, Japan, 9/29-10/2/98.					
	OJ	"The State of SiC: GaN-Based Blue LEDs," J. Edmond, Inst. Phys. Conf. Ser. No. 142, Chap. 6, pp.991-994, 1996.					
	OK	"Wide Bandgap Group-III Nitride Optoelectronics," <a href="http://www.phy.duke.edu/research/photon/terahertz/gan/index.html">http://www.phy.duke.edu/research/photon/terahertz/gan/index.html</a> .					
BWB	OL	"White LED Production at Osram," G. Bogner, Compound Semiconductor, pp.28-31, 5/99.					

RECEIVED

JUN 13 2000

TECHNOLOGY CENTER 2800

Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

FORM PTO-1449  
(Modified)U.S. Department of Commerce  
Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.: 09/463,643

**INFORMATION DISCLOSURE STATEMENT BY APPLICANT**  
(Use Several Sheets If Necessary)

(37 CFR § 1.98(b))

Applicant: Shuji Nakamura *et al.*

Filing Date: January 25, 2000

Group Art Unit:

## FOREIGN PATENTS OR PUBLISHED FOREIGN PATENT APPLICATIONS

		Document Number	Publication Date	Country / Patent Office	Class	Subclass	Translation	
							Yes	No
BWB	AA	04144294	5/18/92	JP	H01S	3/18	X	
	AB	09180998	7/11/97	JP	H01L	21/20	X	
	AC	09246651	9/19/97	JP	H01S	3/18	X	
	AD	09260772	10/3/97	JP	H01S	3/18	X	
	AE	09293935	11/11/97	JP	H01S	3/18	X	
	AF	10242565	9/11/98	JP	H01S	3/18	X	
	AG	10256645	9/25/98	JP	H01S	3/18	X	
	AH	10270792	10/9/98	JP	H01S	3/18	X	
	AI	10290027	10/27/98	JP	H01L	33/00	X	
	AM	10294529	11/4/98	JP	H01S	3/18	X	
	AN	10321962	12/4/98	JP	H01S	3/18	X	
BWB	AN	11040893	2/12/99	JP	H01S	3/18	X	
NO TRANS.	AO	2000-31599	1/28/00	JP	H01S	5/30		X
NO TRANSLATION	AP	DE 196 48 955A1	5/28/97	DE	H01L	33/00		X
	AQ							

## OTHER DOCUMENTS (Including Author, Title, Date, Relevant Pages, Place of Publication)

AR	"InGaN/GaN/AlGaIn-based laser diodes with modulation-doped strained-layer superlattices grown on an epitaxially laterally overgrown GaN substrate," Shuji Nakamura <i>et al.</i> , Applied Physics Letter, Vol. 72, No. 2, January 12, 1998.
AS	
AT	
AU	
AV	
AW	
AX	
AY	
AZ	
BA	
BB	

Examiner:

Date Considered:

EXAMINER:

Initial citation considered. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.